

Civil Engineering Site Plan Review Checklist

	Log No.:	
Project:		
Location:		

Legend

- / Requirement satisfied.
- O Requirement not satisfied.
- ? Unable to determine status, more information is required.
- X Not applicable.

Review #	Reviewed By	Date
1		
2		
3		
4		
5		

The requirements referred to on the checklist can be found in the City's Zoning Code, Subdivision Code, Technical Design Manuals, Standard Details and Standard Specifications Booklets.

ltem	Requirement	Comments
1.	The civil plans must be submitted on 24" x 36" sheets. Please resubmit plans on correct size sheets.	
2.	The minimum height of all text and lettering shall be 0.1" (one tenth of one inch).	
3.	Add the following on the lower right of the cover sheet over the title block:	
	C. O. C. Log No	
4.	Show the name of the proposed development on the cover sheet.	
5.	Show the engineer's name, address, and phone number on the cover sheet.	

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6.	Show the developer's name, address, and phone number on the cover sheet.	
7.	A vicinity or site location map is needed on the cover sheet.	
8.	Show the legal description of property on the cover sheet.	
9.	Reference all elevations shown on the plans to an approved City of Chandler benchmark. The City's benchmark ID number (CMCN #) and verbatim description must match the latest edition of the <i>City of Chandler Vertical Control Base List</i> and must be shown on the cover sheet.	
10.	Please coordinate the plans with all of the appropriate utility companies on the list below. Place a "Utility Coordination Block" on the cover sheet. Show the names of the utility companies and the date plans were submitted to them. Air Products and Chemicals, Inc. Arizona Public Service AT&T Telephone Long Distance Cox Cable El Paso Natural Gas Qwest Roosevelt Water Conservation District (RWCD) Salt River Project (Power) Salt River Project (SRVWUA) Southern Pacific Gas Southwest Gas Sprint Telephone Long Distance	
11.	The following City standard notes must be shown, or corrected, on the cover sheet:	
	A. General Notes.	
	B. Water Notes.	
	C. Reclaimed Water Notes.	
	D. Sewer Notes.	
	E. Paving Notes.	
	F. Grading and Drainage Notes.	
	G. Street Light Notes (APS area).	
	H. Street Light Notes (SRP area).	
	I. Signing and Striping Notes.	
	J. Fire Department General Notes.	

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Item Requirement Comments 12. Provide a quantity tabulation on the cover sheet. See the Certificate of Quantities list for the minimum applicable items required to be included for permit purposes. 13. Include the following certification on plan cover sheet: I hereby certify the setbacks for utility poles, structures, and other similar facilities greater than 18 inches in height shall be 5.5 feet back of curb. In cases where the facilities are adjacent to a deceleration lane or bus bay, the setback can be reduced to 2.5 feet back of curb. REGISTERED CIVIL ENGINEER DATE 14. Add the following note to the plan cover sheet: The following installation procedure shall be followed on all water line extensions of lines over eleven (11) months in age: A new valve of like size shall be installed in the new line extension at the point of extension. A 34" saddle and riser shall be installed in the line between the new valve and the first existing valve in the existing system. This line will be flushed and tested by the City and the 3/4" nut and riser removed. After the new water system is accepted by the City, and the new valve and existing valve are turned on, the operating nut shall be removed from one or the other of the valves and abandoned. 15. Add the following note to the cover sheet: A retaining wall will be required if at the completion of grading there exists more than one foot of difference in elevation between this site and adjacent properties. 16. Add the following note to the grading plans: The existing retention and drainage facilities on this site will not be removed from service until the permanent retention and drainage facilities are functional.

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17.	Reclaimed water lines are required on this project. Please add the following note to the cover sheet:	
	This site plan will not be approved, nor will a Certificate of Occupancy be issued until a Reclaimed Water Use Agreement is executed by the developer and approved by the City.	
18.	The overhead utility lines on or adjacent to this site must be undergrounded. Waivers may be requested in writing for redevelopment and infill area projects. Please add the following note to the cover sheet:	
	The improvements shown on this set of plans will not be fully approved by the City and the Certificate of Occupancy will not be issued until the overhead utility line undergrounding and/or 69KV pole relocation requirement has been satisfied.	
19.	The existing irrigation facilities on or adjacent to this site must be undergrounded. Please add the following note to the cover sheet:	
	The improvements shown on this set of plans will not be fully approved by the City and the Certificate of Occupancy will not be issued until the irrigation facility undergrounding requirement has been satisfied.	
20.	Add the following approval block to the cover sheet:	
	APPROVED FOR COMPLIANCE WITH CITY CODE:	
	CITY ENGINEER DATE	
	DEVELOPMENT SERVICES ENGINEER DATE	
21.	The development is adjacent to a current City project or Improvement District. Coordinate your plans with the City Project or Improvement District Design Engineer. Add the following approval block to your plans and acquire the engineer's signature:	
	APPROVED FOR COORDINATION DATE	
	Project name and number	

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Item Requirement Comments 22. The following certifications are required on the cover sheet: **GRADE CERTIFICATION:** This is to certify that this grading plan is in compliance with the grade requirements of the soils report prepared by: DATE REGISTERED CIVIL ENGINEER **DATE** FINISH GRADE CERTIFICATION: This is to certify that the finish grades shown or as-built on this grading plan are in compliance with the soils report prepared by: DATE REGISTERED CIVIL ENGINEER DATE (OR REGISTERED LAND SURVEYOR) 23. Show a legend identifying the symbols used for the following items on the cover or detail sheet. A. Existing top-of-curb elevations. B. Existing ground elevations. C. Proposed top-of-curb elevations. D. Proposed ground elevations. E. Proposed finished floor and pad elevations. F. Existing contour lines. G. Proposed contour lines. H. Arrows designating direction of drainage flow. I. Drainage structures. J. Grade breaks. 24. Each sheet of the civil package must be sealed, with signature, by the Civil Engineer preparing the plans. Signature sets prepared for final approval shall have the mylar sheets "wet" sealed and signed by the Civil Engineer.

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25.		ow the scale on the plans. An engineering scale must be d; architectural scales are not allowed.	
26.	Sho	ow north arrows on each sheet.	
27.	Thi	imeter traverse data is required for the project boundaries. s is the information normally required to define the land cel legal description.	
28.		e following information is required for existing streets and by adjacent to the development:	
	A.	Street name or "alley" label.	
	B.	Right-of-way width.	
	C.	Driveway locations on both sides of the street with dimensional ties.	
	D.	Street light locations on both sides of the street with dimensional ties.	
	E.	Location of curb, gutter, and sidewalk. This is normally provided by dimensional ties from the street centerline.	
	F.	Width of sidewalk must be noted.	
	G.	Extent and type of pavement with dimensional ties to the edge-of-pavement. Unimproved alleys should be noted as such. Pavement type is normally noted as "A.C." or "Concrete".	
29.	stre line sep can mai	required improvements to existing and proposed public sets, alleys, water lines, reclaimed water lines and sewer as must be a separate improvement plan set with a arate cover sheet. Construction and plan requirements be found within the appropriate City technical design hual. All private improvements are to be included in the ding and drainage set.	
30.	Wa rega AD pro	ow all existing wells and their Arizona Department of ter Resources registration number on the plans. If not istered, so note on the plans. Register wells with the WR prior to any disposition, and documentation vided to the City. Contact Sandy Story at 480-782-3588 coordinate well registration and disposition.	

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31.	All existing buildings and significant structures or items must be shown. Significant structures and items include canals, irrigation ditches, easements, and other like items. If any of these items are to be removed, they must be noted as such.	
32.	The location of all proposed driveways to the site must be shown with dimensional ties. The driveway width must also be noted. All driveway locations and construction details must comply with the standards presented within the City's <i>Technical Design Manual 4 - Street Design and Access Control</i> .	
33.	Bus pullouts are required; see the City's <i>Technical Design Manual 4 - Street Design and Access Control</i> for construction details.	
34.	Landscape design plans are required for the adjacent arterial median:	
	A. New median.	
	B. Existing median requires upgrade.	
	C. Submit landscape plans with next civil submittal.	
	Note: No further review will be performed until the required landscaping design is submitted.	
35.	Show the finish floor elevation of all buildings. The finish floor elevation shall be 14" above the development's low-outfall elevation, which shall be identified on the plans.	
36.	Cross-section must be shown across all property lines. Show all existing and proposed perimeter walls on the plan and cross sections, with top of wall elevations.	
37.	Show construction details, cross-sections and/or profiles for all proposed drainage facilities such as:	
	A. Retention basins (proposed contours are required).	
	B. Drainage swales (proposed spot elevations every 50 ft. and at grade breaks are required).	
	C. Storm drains (profiles are required).	
	D. Scupper (cross section with elevations at all grade breaks).	
	E. Catch basins.	

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Item	Requirement	Comments
38.	Show existing spot elevations for all existing curb and gutter adjacent to the development. Show existing curb and gutter spot elevations beyond the site limits sufficient to permit analysis of off-site drainage impacts on the project. Elevations must be shown adjacent to each property corner, at all grade breaks, and at all scuppers/catch basins.	
39.	Show existing ground spot elevations and top of existing and proposed perimeter wall elevations along and adjacent to all property lines.	
40.	Show existing spot elevations at all property corners and at a reasonable spacing, typically 50-ft. intervals, throughout the site. Spot elevations are required immediately off-site adjacent to the project boundary sufficient to permit analysis of grade differentials and drainage. On large sites or sites with significant natural slopes, contours may be required.	
41.	Retention basin requirements:	
	A. Maximum design storm depth shall not exceed 3 feet.	
	B. 4:1 maximum side slope allowed.	
	C. Show contours of side slopes.	
	D. Show berming as required by Site Development.	
42.	Water lines, including fire lines and water services, are not allowed to pass under retention basins. This does not apply to paved parking areas used for retention.	
43.	All portions of the development within the FEMA 100-year flood zones must be identified. If any such areas are identified, Maricopa County Flood Control District approval is required.	
44.	All percolation test results will be provided prior to any grading on the site as a part of the grading and drainage plan review process. Under no circumstances will testing be deferred to after completion of site grading.	

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Item Requirement Comments 45. A drainage report is required. Requirements for the hydrology report are presented within the City's Technical Manual 3 - Storm Drainage System Design. The drainage report shall include the following as a minimum: A. Calculations showing the volume of retention required plus 10%. Calculations showing the volume of retention provided. Depth of basins must not exceed 3 ft. C. A drainage map showing the tributary areas to the proposed retention basins. A discussion concerning the low outfall elevation for the site, including the effects of an overflow situation. The elevation must be called out in the report. Certified shallow pit percolation test results and retention basin drainage time calculation are required for each drainage basin/area. Retention basin drainage time shall be based on a 50% attenuation of the shallow pit percolation test results. If drywells are deemed to be necessary to meet the 36-hour drainage time requirement, the number of drywells must be determined. The drywell design drainage rate cannot exceed 0.1 cfs unless supported by soil information. Maximum depth of stormwater retention on pavement shall be 0.5 ft. G. A discussion concerning the minimum finish floor elevation within the development. H. Street hydraulic calculations showing that the 10-year storm runoff is retained within the curbs. Velocities shall be based upon the 10-year full depth. Street hydraulic calculations showing that the 50-year storm runoff is retained within 0.3 feet maximum depth over curb. J. Storm drainage inlet and pipe sizing/capacity calculations. Show all calculations, formulas and charts used. 46. Underground retention storage tanks must comply with the attached criteria. 47. Provide structural calculations for all drainage pipe subject to wheel loads.

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Item Requirement Comments 48. Register all proposed drywells with the Arizona Department of Environmental Quality (ADEQ) and provide a copy of the application to the City of Chandler for its files. The following requirements also apply: The City drywell detail must be shown on the plans. B. All drywells must conform to the City detail. All drywells involving hazardous materials, including fuels, must include the "ENVIBRO" drainage system or equal. 49. The following standard details are to be called out or shown on the plans: When catch basin per MAG Detail No. 533-1 is specified on plans, specify also: Grate per MAG Detail No. 533-3. Curb & gutter transition per MAG Detail No. 532. Trash rack/access barrier per City Standard Detail No. C-503 is required for all pipe 12" and larger. Show detail on plans. 50. Provide the following in accordance with subdivision requirements: A. Preliminary plat. B. Final plat. C. Replat or amended plat. D. Minor land division. A Standard Owners Policy Preliminary Title Report, no older than 6 months, is required with the plat submittal. Submit an updated title report (no older than 30 days) with the mylars for final staff approval. F. ALTA Survey. Note: No building permit will be granted until a required final plat is recorded. No Certificate of Occupancy will be granted until a required Map of **Dedication** is recorded.

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Item		Requirement	Comments
51.	Ass Pro Env	ovide for review a Phase I Environmental Assessment in impliance with ASTM "Standard for Environmental Site sessment: Phase I Environmental Site Assessment ocess (E-1527-93)". Submit an original updated Phase I vironmental Assessment, no older than 90 days, naming City of Chandler as beneficiary, with the plat mylars at time of final plat approval or at the time of site and provement plan approval if platting is not a requirement.	
52.	An	easement deed (or warranty deed) is required.	
	A.	A warranty deed is required for street dedication.	
	B.	Please use the City's form for the warranty deed.	
	C.	An easement deed is required; please use City form.	
	D.	Submit all deeds and exhibits for review prior to obtaining the owner's notarized signature(s).	
	E.	A private easement is required.	
	F.	Private easement deeds are to be recorded by the owner after City review and a copy of the recorded deed submitted for City file.	
	G.	An easement or warranty deed that is submitted in a format not pre-approved must be approved by the City Attorney.	
		te: Warranty deeds are generally not allowed over ups of Dedication.	

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Item Requirement Comments 53. All deeds require, as a minimum, all of the following information and/or exhibits: Project name. Type of easement/right-of-way. В. The reason or purpose for the easement/right-of-way. D. Vicinity map showing major cross streets. E. Legal description with R. L. S. certification, labeled "Exhibit A". Detailed map as an exhibit showing the easement/rightof-way alignment with dimensions and bearings, true point of beginning, township and range, labeled "Exhibit B". G. A Standard Owners Policy Preliminary Title Report no older than 60 days. The final submittal for deeds for acceptance and recording by the City's Real Estate Division must be in accordance with the Real Estate Checklist for Processing Separate Instruments. 54. The development is within an Airport Impact Overlay District. Please complete and submit an avigation easement form for review for the following airport: Stellar Airpark. A. Chandler Municipal Airport. FAA approval per FAA Regulation Part 77 is required. Written approval from the FAA is required prior to City plan approval.

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Item Requirement Comments 55. If one or more of the following wall conditions exist: A. Retaining wall where the finish grade differential is in excess of 48" (4'), B. Screen wall where the maximum exposed height is in excess of 7', C. Retaining wall that supports a surcharge load, D. Combination retaining wall/screen wall where the screen wall is in excess of 6', where the retaining wall finish grade differential is in excess of 4', or where the aggregate height of the wall exceeds 10' ...include the structural details on the civil plans, and a separate review by building & safety staff of the wall design for conformance with the I.B.C. is required. Make a separate submittal of two (2) sets of calculations and wall details to the Development Services Building & Safety section for review and approval. Include the following certification on the plans adjacent to the wall structural details: **CERTIFICATION:** I hereby certify that the walls shown hereon were designed in compliance with the I.B.C., current edition, that they were reviewed by the **Development Services Building & Safety** section, and that the details shown hereon conform to that design. REGISTERED CIVIL OR DATE

STRUCTURAL ENGINEER

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Item Requirement Comments 56. If one or more of the following wall conditions exist: Retaining wall where the finish grade differential is less than or equal to 48"(4'), B. Screen wall where the maximum exposed height is less than 7', C. Combination retaining wall/screen wall where the screen wall is 6' in height or less and the aggregate height is 10', or less; ...the structural details must be included on the civil plans. Particular attention shall be given to the structural connection between the retaining wall and the screen wall. Include the following certification on the plans adjacent to the wall structural details: **CERTIFICATION:** I hereby certify that the walls shown hereon are designed in compliance with the I.B.C., current edition, and that the details shown hereon conform to that design. REGISTERED CIVIL OR DATE STRUCTURAL ENGINEER 57. If Item 56, Item 57 or both apply, provide the following certification on the cover sheet of the civil plans. The offsite improvements will not be considered complete and the Certificate of Occupancy will not be issued until the certification is properly executed. **AS-BUILT CERTIFICATION OF SITE WALLS:** I hereby certify that the walls and/or retaining walls shown herein have been inspected by me, or under my supervision, and that they have been constructed in conformance with the details shown on these plans. REGISTERED CIVIL OR DATE STRUCTURAL ENGINEER 58. Show all site wall structural details, where applicable, on the civil plans. 59. Submit a utility infrastructure study.

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60.	Show all existing fire hydrants adjacent to the property boundaries.	
61.	The following information is required for existing utility lines in the streets/alleys surrounding the development:	
	A. Location and size of water lines.	
	B. Location and size of sewer lines.	
	C. Location and size of reclaimed water lines.	
	D. Location of power poles.	
	E. Dimensional ties to utility lines being tied into.	
62.	The location of existing water meters and water, reclaimed water, sewer, and fire line services to the site must be shown with dimensional ties. The sizes of the aforementioned meters and services must also be shown.	
63.	Backflow prevention devices are required on the potable water services per City Standard Details and shall be located on private property immediately following the water meter box.	
64.	Domestic water lines:	
	A. All water lines 4" and larger must meet all Public Works Department offsite inspection requirements.	
	B. Refer to the City's <i>Technical Design Manual 6 - Water System Design</i> for requirements.	
	C. See "Water Plan Review Checklist" for further requirements.	

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Item Requirement Comments Fire lines: 65. A. Refer to the City's *Technical Design Manual 6 - Water* System Design for requirements. B. Refer to the Fire Department's plan review guides for site plans and underground fire lines for requirements. C. Add note: All fire line thrust blocks shall comply with N.F.P.A. 24. D. All fire hydrants shall be provided with an "Out Of Service" sign per City of Chandler Fire Department Standard Detail FD123 and must be on the plans. The sign shall remain in place until the City accepts the lines. 66. Sewer lines: A. All sewer lines 8" and larger must meet all Public Works Department offsite inspection requirements. All existing and proposed manholes shall be adjusted per MAG Standard Detail 422 and MAG Spec 345. C. See "Sewer and Reclaimed Water Plan Review Checklist" for further requirements. 67. For industrial projects, a waste sampling manhole is required on the sewer service adjacent to the right-of-way. 68. Reclaimed water lines are required in the arterial street rightof-way adjacent to this project. Location is 1 ft. off of the right-of-way line with 7 ft. of cover, unless otherwise determined by the City Engineer. 69. Improvements are being installed that are eligible for reimbursement. The developer must request, in writing, that a reimbursement agreement be prepared after eligible offsite improvements are completed and accepted. 70. Streetlights are required on all streets adjacent to the development; see the City's Technical Design Manual 6 -Streetlight Design for spacing requirements.

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Item Requirement Comments 71. Proposed street light installations must comply with street light standards and must note the following minimum items: A. Luminaire size. B. Luminaire mounting height. C. City Standard Detail number for the type of pole. (SL1 for most installations, SL10 for City Center area, SL16 for decorative poles on local streets or collector streets or SL17 where necessary along arterial streets for clearance from overhead power lines.) D. Dimensional ties from the street centerline to the proposed street light. Dimensional ties from property corners to the proposed E. street light. F. Add the following note on the cover sheet: The design herein is in conformance with Appendix "SL-A" of the Street Light Standards. 72 If the development site is located on an arterial street, a traffic signal conduit is required to be installed 6" behind the back of sidewalk and at a depth of 24" below finished grade or top of curb. The conduit shall be 2" PVC with a No. 14 tracer wire (THWN, green) and ADOT No. 5 pull boxes at a maximum spacing of 400 feet. See COC Standard Detail C-200 for location and ADOT Standard Detail T.S. 1-2 for pull boxes. See City *Technical* Design Manual 4 - Street Design and Access Control. 73. Any existing 2" traffic signal conduit and associated pull boxes must be relocated to 6" back of the new sidewalk location in the case of street widening or the installation of a new deceleration lane.

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Item Requirement Comments 74. If the development site is located at: A) An arterial intersection where median breaks are present, or where the future installation of traffic signals are possible, or B) An arterial-arterial intersection, ... a traffic signal conduit is required to be installed across the adjacent arterial streets. The conduit shall be 3" PVC with a No. 14 tracer wire (THWN, green) and ADOT No. 7 pull boxes at each end. The pull boxes will be located behind the sidewalk, at the center of the radius. See ADOT Standard Detail T.S. 1-4 for pull boxes. See City Technical Design Manual 4 - Street Design and Access Control. See City Technical Design Manual 5 - Traffic Signal Design. Any existing 3" transverse traffic signal conduit and 75. associated pull box must be relocated to a location in back of the sidewalk in the case of the installation of a new deceleration lane at the intersection. 76. Payment of buy-ins is required before plans can be approved. 77. A street cut application must be submitted to the City, and approved by the City Engineer prior to plan approval: Please submit application. Application is currently under review. C. Application has been denied. D. Application has been approved.

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78.	Coı	mplete and submit the following forms:	
	A.	Certificate of Area.	
	B.	Certificate of Quantities - to be submitted with mylars for final approval.	
	C.	Right-of-way/easement dedication forms.	
	D.	Waste Water Discharge Questionnaire.	
	E.	Offsite Construction Estimate (for Performance Bond purposes).	
	F.	New Non-Residential Water Use Plan.	

Please return this checklist with the next plan submittal

City Use Only

- 1. Buy-ins paid?
- 2. Zoning code landscaped area in front?
- 3. Review by city service supervisors needed?
- 4. Reimbursement Agreement
 - A. Required
 - B. Prepared